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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,885	12/31/2003	Kendall S. Wills	TI-37080 (032350.B576)	8899
23494	7590	05/20/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			BHAT, ADITYA S	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/749,885

Applicant(s)

WILLS ET AL.

Examiner

Aditya S. Bhat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/24/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 7-11,13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Bechhoefer et al. (USPUB 2004/0230383)

With regards to claim 1, Bechhoefer et al. (USPUB 2004/0230383) teaches a system for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the system comprising:

a library of one or more reference wavelet analysis results that each correspond to one or more known anomalies having one or more known characteristics; (abstract) (page2 paragraph 0013) (112;figure 2) and

an analysis module(108;figure 2) operable to:

receive a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field; (page1 paragraph 0007)

calculate a wavelet analysis result from a wavelet analysis of the first signal, the wavelet analysis result corresponding to the second signal; (See figure 26 A)

access the library (figure 2);

compare the wavelet analysis result with one or more reference wavelet analysis results; (1034d; figure 22B)

if the wavelet analysis result corresponds to one or more particular reference wavelet analysis results, indicate that the anomaly in the wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet analysis results; (page 10 paragraph 0089) and

if the wavelet analysis result does not correspond to one or more reference wavelet analysis results, indicate that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library. (Page 10, paragraph 0091)

With regards to claims 2, 8, and 14, Bechhoefer et al. (USPUB 2004/0230383) teaches the wavelet analysis result comprises a wavelet power spectrum of the first signal and the reference wavelet analysis results each comprise one or more reference wavelet power spectra. (see figure 26 A)

With regards to claims 3, 9, and 15, Bechhoefer et al. (USPUB 2004/0230383) teaches a wavelet transform is used to calculate the wavelet power spectrum of the TDR signal. (Page 9, paragraph 0081) (See figure 25 & 26 A)

With regards to claims 4, 10, and 16 Bechhoefer et al. (USPUB 2004/0230383) teaches the second signal is a time domain reflectometry (TDR) signal. (Page 9, paragraph 0081) (See figure 25 & 26 A)

With regards to claims 5, 11, and 17, Bechhoefer et al. (USPUB 2004/0230383) teaches a location of the anomaly is determined according to the scan of the magnetic field from the wire. (Page 24, paragraph 0256)

With regards to claim 7, Bechhoefer et al. (USPUB 2004/0230383) teaches a method for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the method comprising:

receiving a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field; (page 1, paragraph 0007)

calculating a wavelet analysis result from a wavelet analysis of the first signal, the wavelet analysis result corresponding to the second signal; (page 3, paragraph 0013)

accessing a library of one or more reference wavelet analysis results that each correspond to one or more known anomalies having one or more known characteristics; (page 2 paragraph 0013) (112;figure 2)

comparing the wavelet analysis result with one or more reference wavelet analysis results; (page 6, paragraph 0026)

if the wavelet analysis result corresponds to one or more particular reference wavelet analysis results, indicating that the anomaly in the wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet analysis results; (Page 10, paragraph 0089) and

if the wavelet analysis result does not correspond to one or more reference wavelet analysis results, indicating that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library. (Page 10, paragraph 0091)

With regards to claim 13, Bechhoefer et al. (USPUB 2004/0230383) teaches software for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the software embodied in computer-readable media and when executed operable to:

receive a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field; (page 1, paragraph 0007)

calculate a wavelet analysis result from a wavelet analysis of the first signal, the wavelet analysis result corresponding to the second signal; (page 3, paragraph 0013)

access a library of one or more reference wavelet analysis results that each correspond to one or more known anomalies having one or more known characteristics; (page 2 paragraph 0013) (112;figure 2)

compare the wavelet analysis result with one or more reference wavelet analysis results; (page 6, paragraph 0026)

if the wavelet analysis result corresponds to one or more particular reference wavelet analysis results, indicate that the anomaly in the wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the

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one or more particular reference wavelet analysis results; (Page 10, paragraph 0091)  
and

if the wavelet analysis result does not correspond to one or more reference wavelet analysis results, indicate that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library. (Page 10, paragraph 0091)

With regards to claim 19, Bechhoefer et al. (USPUB 2004/0230383) teaches a system for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the system comprising:

means for receiving a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field; (page 1, paragraph 0007)

means for calculating a wavelet analysis result from a wavelet analysis of the first signal, the wavelet analysis result corresponding to the second signal; (page 3, paragraph 0013)

means for accessing a library of one or more reference wavelet analysis results that each correspond to one or more known anomalies having one or more known characteristics; (page 2 paragraph 0013) (112; figure 2)

means for comparing the wavelet analysis result with one or more reference wavelet analysis results; (page 6, paragraph 0026)

means for, if the wavelet analysis result corresponds to one or more particular reference wavelet analysis results, indicating that the anomaly in the wire has one or

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more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet analysis results; (Page 10, paragraph 0089)and

means for, if the wavelet analysis result does not correspond to one or more reference wavelet analysis results, indicating that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library. (Page 10, paragraph 0091)

With regards to claim 20, Bechhoefer et al. (USPUB 2004/0230383) teaches a system for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the system comprising:

a library of one or more reference wavelet power spectra that each correspond to one or more known anomalies having one or more known characteristics; (figure 2) and  
an analysis module operable to:

receive a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field, the second signal being a time domain reflectometry (TDR) signal; (Page 9, paragraph 0081)

calculate a wavelet power spectrum of the first signal, the wavelet power spectrum corresponding to the second signal; (Page 3, paragraph 0013)

access the library;(figure 2)

compare the wavelet power spectrum with one or more reference wavelet power spectra; (figure 25-26A)



if the wavelet power spectrum corresponds to one or more particular reference wavelet power spectra, indicate that the anomaly in the wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet power spectra; (Page 2, paragraph 0013) and

if the wavelet analysis result does not correspond to one or more reference wavelet power spectra, indicate that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet power spectra in the library. (Page 2, paragraph 0013)

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bechhoefer et al. (USPUB 2004/0230383) .

With regards to claims 6, 12, and 18 Bechhoefer et al. (USPUB 2004/0230383) does not appear to explicitly disclose an integrated circuit (IC) package comprises the wire.

It would have been obvious to one skilled in the art at the time of the invention to test a wire that is included in a integrated circuit package, since, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be

employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d-1647 (1987).

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ahuja et al. (USPN 5,740,036) teaches a method and apparatus for analyzing geological data using wavelet analysis, Guigne (USPN 4924449 ) teaches an acoustic sub-surface interrogator, Yamamoto (USPN 5,243,565) teaches a method of measuring direction spectra of surface gravity waves and Huang (USPN 6,311,130) teaches a computer implemented empirical mode decomposition method, apparatus, and article of manufacture for two-dimensional signals

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aditya S. Bhat whose telephone number is 571-272-2270. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

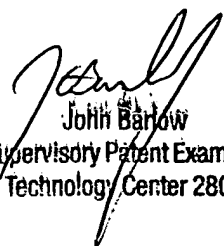
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you have questions on access to the Private PAIR system, contact the Electronic  
Business Center (EBC) at 866-217-9197 (toll-free).

Aditya Bhat  
May 11, 2005

  
John Barlow  
Supervisory Patent Examiner  
Technology Center 2800